Chapter 6

References

6. References

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Chapter 7

List of Publications

8.1. Publications from the research work

1. **Viswanadh M.K.,** Vikas, Jha A., Adena S.K.R., Mehata A.K., Priya V., Neogi K., Poddar S., Mahto S.K., and Muthu M.S., (2020) Formulation and *in vivo* efficacy study of cetuximab decorated targeted bioadhesive nanomedicine for non-small-cell lung cancer therapy. **Nanomedicine(Lond.)** 15(24), 2345-2367. **(Impact Factor: 5.307)**
2. **Viswanadh M.K.,** Agrawal N., Azad S., Jha A., Poddar S., Mahto S.K., and Muthu M.S., (2021). Novel redox-sensitive thiolated TPGS based nanoparticles for EGFR targeted lung cancer therapy. **International Journal of Pharmaceutics** 602, 120652. **(Impact Factor: 5.875)**

8.2. Other Publications

1. Vikas, **Viswanadh M.K.**, Mehata A.K., Sharma V, Priya V, Varshney N, Mahto S.K., Muthu M.S. Bioadhesive chitosan nanoparticles: Dual targeting and pharmacokinetic aspects for advanced lung cancer treatment. **Carbohydrate Polymers,** 274, 118617. **(Impact Factor: 9.381).**

2. **Viswanadh M.K.,** and Muthu M.S., (2018). Targeted bioadhesive nanomedicine: an effective approach for synergistic drug delivery to cancers Nanomedicine(Lond.) 13(12), 1401-1403. **(Impact Factor: 5.307)**

3. Sonali, **Viswanadh M.K.,** Singh, R.P., Agrawal, P., Mehata, A.K., Pawde, D.M., Narendra., Sonkar, R., Muthu. M.S. (2018): Nanotheranostics: Emerging strategies for early diagnosis and therapy of brain cancer. Nanotheranostics. 2(1), 70-86. **(PubMed Central Indexed)**
4. Muthu M.S., Mehata, A.K., **Viswanadh, M.K.** (2017): Upconversion nanotheranostics: emerging designs for integration of diagnosis and therapy. Nanomedicine(Lond.) 12(6), 577-580. **(Impact Factor: 5.307)**
5. Mehata A.K, Bharti S, Singh P, **Viswanadh M.K,** Kumari L, Agrawal P, Singh S, Koch B, Muthu. M.S. (2019): Trastuzumab decorated TPGS-g-chitosan nanoparticles for targeted breast cancer therapy. Colloids and Surfaces B: Biointerfaces. 173, 366-377. **(Impact Factor: 3.997)**
6. Vikas, **Viswanadh M.K.,** Priya V., Mehata A.K., Muthu M.S., (2019). What are the unexplored facts about nanomicelles formed from docetaxel clinical injection? Therapeutic delivery 11 (1), 801-803. **(SCI and SCOPUS Indexed)**
7. Gangwar A, Varghese S.S., A.sharma, Meena S.S., Prajapat C.L., **Viswanadh M.K.,** Neogi K., Muthu M.S., Prasad N.K., (2020). Physical and *in-vitro* evaluation of ϵ-Fe_3N@ Fe_3O_4 nanoparticles for bioapplications, Ceramics International 46 (8), 10952-10962. **(Impact Factor: 3.83)**
8. Pawde D.M., **Viswanadh M.K.**, Mehata A.K., Sonkar R., Poddar S., Burande A.K., Jha A., Vajanthri K.Y., Mahto S.K., Azger Dustakeer V.N., Muthu M.S., (2020). Mannose receptor targeted bioadhesive chitosan nanoparticles of clofazimine for effective therapy of tuberculosis. Saudi Pharmaceutical Journal 28 (12), 1616-1625. **(Impact Factor: 3.76)**
9. Narendra, Mehata A.K., **Viswanadh M.K.**, Sonkar R., Pawde D.M., Priya V., Singh M., Koch B., Muthu M.S., (2020). Formulation and *in vitro* evaluation of

upconversion nanoparticle-loaded liposomes for brain cancer. Therapeutic Delivery 11 (9), 557-571. **(SCI and SCOPUS Indexed)**

10. Alla S.K., Gangwar A., Shaw S.K., **Viswanadh M.K.**, Neogi K., Muthu M.S., Gupta N., Meena S.S., Kollu P., Mandal R.K., Prasad N.K., (2021). Physical and in-vitro evaluation of pure and substituted MxCe1-xO2 (M= Co, Fe or Ti and x= 0.05) magnetic nanoparticles. Ceramics International 47 (7), 8812-8819. **(Impact Factor: 3.83)**
11. Sonkar R., Jha A., **Viswanadh M.K.,** Burande A.S., Pawde D.M., Patel K.K., Singh M., Koch B., Muthu M.S., (2021). Gold liposomes for brain-targeted drug delivery: Formulation and brain distribution kinetics. Materials Science and Engineering: C 120, 111652. **(Impact Factor: 5.88)**
12. Priya V., **Viswanadh M.K.**, Mehata A.K., Jain D., Singh S.K., Muthu M.S., (2021). Targeted nanotherapeutics in the prophylaxis and treatment of thrombosis. Nanomedicine(Lond.) (accepted for publication). **(Impact Factor: 5.307)**
13. Jha A., **Viswanadh M.K.,** Burande B.S., Mehata A.K., Poddar S., Yadav K., Mahto S.K., Parmar A.S., Muthu M.S. (2020) DNA biodots based targeted theranostic nanomedicine for the imaging and treatment of non-small cell lung cancer. International Journal of Biological Macromolecules. 150 (2020) 413–425. **(Impact Factor: 5.162)**
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15. Burande A.S., Jha A., **Viswanadh M.K.,** Mehata A.K., Poddar S., Mahto S.K., Muthu M.S. (2020) EGFR targeted paclitaxel and piperine co-loaded liposomes for treatment of triple negative breast cancer. AAPS PharmSciTech 21, 1-12. **(Impact Factor: 2.451)**
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17. Gangwar A., Varghese S.S., Meena S.S., **Viswanadh M.K.**, Neogi K., Muthu M.S., Prasad N.K., (2020). Physical and in vitro evaluation of ultra-fine cohenite particles for the prospective magnetic hyperthermia application. Journal of Materials Science: Materials in Electronics 31, 10772-10782. **(Impact Factor: 2.195)**
18. Adena S.K.R.**, Viswanadh M.K.,** Ramya Krishna P., Anusha I., (2016). Formulation and Evaluation of Sildenafil Citrate Fast Dissolving Tablets Using Crospovidone and Croscarmellose Sodium Superdisintegrants, Journal of Pharmacy Research 10(7),484-492. **(SCOPUS Indexed)**
19. Adena SKR**, Viswanadh M.K.,** Ramoji K**,** Formulation, optimization, and in vitro characterization of dasatinib loaded polymeric nanocarriers to extend the release of the model drug. International Journal of Applied Pharmaceutics, accepted for publication.
20. Mehata A.K, **Viswanadh M.K**, Priya V, Vikas, Muthu M.S. Harnessing immunological targets for COVID-19 immunotherapy. Future Virology (Future Medicine), accepted for publication. **(Impact Factor: 1.831)**

Chapter 8

Curriculum Vitae

MATTE KASI VISWANADH

Research Scholar, Department of Pharmaceutical Engineering & technology,
Indian Institute of Technology (BHU), Varanasi, India,
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I have 22 papers to my name and four of them as the first author (one review and one editorial). 3 more articles are in pipeline as co-author. I have five years of teaching and five years of research experience in the area of drug delivery systems, particularly development of targeted nanosystems for the treatment of cancer.

My doctoral research work focused on the design, development, characterization and evaluation of **EGFR targeted chitosan nanomedicine and redox sensitive TPGS-SH nanomedicine for the treatment of non-small cell lung cancer.** The design part was done by applying the QBD approach; PBD was used to select the CPPs that affect the CQAs. 3^3 Full Factorial Design was used to optimize the formulation. Nanoparticles were developed by the ionic gelation method (for chitosan nanoparticles) and dialysis method (for redox sensitive TPGS-SH nanoparticles) and post conjugated with anti-EGFR antibody Cetuximab. Prepared nanoformulations were characterized by TEM, SEM, AFM, XRD, XPS techniques and in-vitro characterization was done for drug release, encapsulation efficiency etc. Prepared nanoformulations were also evaluated for in vitro cellular uptake, cytotoxicity, apoptosis, bioadhesive property, wound healing (migration) using A549 human adenocarcinoma cells. In-vivo studies like pharmacokinetics, histopathology in CF rats, and in-vivo anti-cancer efficiency in benzopyrene induced mice lung cancer model were completed with excellent results. Both works are published in peer reviewed journals such as **Nanomedicine (Future Medicine, 5.307 impact factor)** and **International Journal of Pharmaceutics (Elsevier, 5.875 impact factor).**

EDUCATION

Examinations	University/ Board	Year of Completion	Subjects	% of Marks /Grade	Class
B. Pharm.	JNTUA	2009	Pharmaceutical Sciences	74.65%	I
M. Pharm.	JNTUA	2011	**Pharmaceutics**	81%	I
Ph.D. **(Full-time)**	Indian Institute of Technology (BHU)	July 2016-Date (Pre-submission seminar delivered)	**Targeted Nanomedicine for Lung Cancer Therapy**		

PUBLICATIONS

1. **Viswanadh M.K.,** Vikas, Jha A., Adena S.K.R., Mehata A.K., Priya V., Neogi K., Poddar S., Mahto S.K., and Muthu M.S., (2020) Formulation and *in vivo* efficacy study of cetuximab decorated targeted bioadhesive nanomedicine for non-small-cell lung cancer therapy. **Nanomedicine(Lond.)** 15(24), 2345-2367. **(Impact Factor: 5.307)**
2. **Viswanadh M.K.,** Agrawal N., Azad S., Jha A., Poddar S., Mahto S.K., and Muthu M.S., (2021). Novel redox-sensitive thiolated TPGS based nanoparticles for EGFR targeted lung cancer therapy. **International Journal of Pharmaceutics** 602, 120652. **(Impact Factor: 5.875)**
3. **Viswanadh M.K.,** and Muthu M.S., (2018). Targeted bioadhesive nanomedicine: an effective approach for synergistic drug delivery to cancers Nanomedicine(Lond.) 13(12), 1401-1403. **(Impact Factor: 5.307)**
4. Sonali, **Viswanadh M.K.,** Singh, R.P., Agrawal, P., Mehata, A.K., Pawde, D.M., Narendra., Sonkar, R., Muthu. M.S. (2018): Nanotheranostics: Emerging strategies for early diagnosis and therapy of brain cancer. Nanotheranostics. 2(1), 70-86. **(PubMed Central Indexed)**
5. Muthu M.S., Mehata, A.K., **Viswanadh, M.K.** (2017): Upconversion nanotheranostics: emerging designs for integration of diagnosis and therapy. Nanomedicine(Lond.) 12(6), 577-580. **(Impact Factor: 5.307)**
6. Mehata A.K, Bharti S, Singh P, **Viswanadh M.K,** Kumari L, Agrawal P, Singh S, Koch B, Muthu. M.S. (2019): Trastuzumab decorated TPGS-g-chitosan nanoparticles for targeted breast cancer therapy. Colloids and Surfaces B: Biointerfaces. 173, 366-377. **(Impact Factor: 5.268)**
7. Vikas, **Viswanadh M.K.,** Priya V., Mehata A.K., Muthu M.S., (2019). What are the unexplored facts about nanomicelles formed from docetaxel clinical injection? Therapeutic delivery 11 (1), 801-803. **(SCI and SCOPUS Indexed)**
8. Gangwar A, Varghese S.S., A.sharma, Meena S.S., Prajapat C.L., **Viswanadh M.K.,** Neogi K., Muthu M.S., Prasad N.K., (2020). Physical and *in-vitro* evaluation of ϵ-Fe_3N@ Fe_3O_4 nanoparticles for bioapplications, Ceramics International 46 (8), 10952-10962. **(Impact Factor: 4.527)**
9. Pawde D.M., **Viswanadh M.K.**, Mehata A.K., Sonkar R., Poddar S., Burande A.K., Jha A., Vajanthri K.Y., Mahto S.K., Azger Dustakeer V.N., Muthu M.S., (2020). Mannose receptor targeted bioadhesive chitosan nanoparticles of clofazimine for effective therapy of tuberculosis. Saudi Pharmaceutical Journal 28 (12), 1616-1625. **(Impact Factor: 4.33)**
10. Narendra, Mehata A.K., **Viswanadh M.K.**, Sonkar R., Pawde D.M., Priya V., Singh M., Koch B., Muthu M.S., (2020). Formulation and *in vitro* evaluation of upconversion nanoparticle-loaded liposomes for brain cancer. Therapeutic Delivery 11 (9), 557-571. **(cite score: 4.7)**
11. Alla S.K., Gangwar A., Shaw S.K., **Viswanadh M.K.**, Neogi K., Muthu M.S., Gupta N., Meena S.S., Kollu P., Mandal R.K., Prasad N.K., (2021). Physical and in-vitro evaluation of pure and substituted MxCe1-xO2 (M= Co, Fe or Ti and x= 0.05) magnetic nanoparticles. Ceramics International 47 (7), 8812-8819. **(Impact Factor: 4.527)**
12. Sonkar R., Jha A., **Viswanadh M.K.,** Burande A.S., Pawde D.M., Patel K.K., Singh M., Koch B., Muthu M.S., (2021). Gold liposomes for brain-targeted drug delivery:

Formulation and brain distribution kinetics. Materials Science and Engineering: C 120, 111652. **(Impact Factor: 7.328)**

13. Priya V., **Viswanadh M.K.**, Mehata A.K., Jain D., Singh S.K., Muthu M.S., (2021). Targeted nanotherapeutics in the prophylaxis and treatment of thrombosis. Nanomedicine(Lond.) (Epub ahead of print). **(Impact Factor: 5.307)**
14. Jha A., **Viswanadh M.K.,** Burande B.S., Mehata A.K., Poddar S., Yadav K., Mahto S.K., Parmar A.S., Muthu M.S. (2020) DNA biodots based targeted theranostic nanomedicine for the imaging and treatment of non-small cell lung cancer. International Journal of Biological Macromolecules. 150 (2020) 413–425. **(Impact Factor: 6.953)**
15. Mehata, A.K., **Viswanadh, M.K.,** Priya, V., Vikas, Muthu, M.S., (2020). Dendritic cells targeted theranostic nanomedicine: advanced cancer nanotechnology for diagnosis and therapy. Nanomedicine(Lond.) 15 (10), 947-949. **(Impact Factor: 5.307)**
16. Burande A.S., Jha A., **Viswanadh M.K.,** Mehata A.K., Poddar S., Mahto S.K., Muthu M.S. (2020) EGFR targeted paclitaxel and piperine co-loaded liposomes for treatment of triple negative breast cancer. AAPS PharmSciTech 21, 1-12. **(Impact Factor: 3.246)**
17. Gangwar A., Kumar S., Meena S.S., Sharma A., **Viswanadh M.K.**, Neogi K., Muthu M.S., Prasad N.K., (2020). Structural and in-vitro assessment of ZnxFe3− xC ($0 \leq x \leq 1$) nanoparticles as magnetic biomaterials, Applied Surface Science 509, 144891. **(Impact Factor: 6.707)**
18. Gangwar A., Varghese S.S., Meena S.S., **Viswanadh M.K.**, Neogi K., Muthu M.S., Prasad N.K., (2020). Physical and in vitro evaluation of ultra-fine cohenite particles for the prospective magnetic hyperthermia application. Journal of Materials Science: Materials in Electronics 31, 10772-10782. **(Impact Factor: 2.478)**
19. Adena S.K.R.**, Viswanadh M.K.,** Ramya Krishna P., Anusha I., (2016). Formulation and Evaluation of Sildenafil Citrate Fast Dissolving Tablets Using Crospovidone and Croscarmellose Sodium Superdisintegrants, Journal of Pharmacy Research 10(7),484-492. **(SCOPUS Indexed)**
20. Adena SKR**, Viswanadh M.K.,** Ramoji K**,** Formulation, optimization, and in vitro characterization of dasatinib loaded polymeric nanocarriers to extend the release of the model drug. International Journal of Applied Pharmaceutics, accepted for publication.
21. Mehata A.K, **Viswanadh M.K**, Priya V, Vikas, Muthu M.S. Harnessing immunological targets for COVID-19 immunotherapy. Future Virology (Future Medicine), accepted for publication. **(Impact Factor: 1.831)**

ACHIEVEMENTS

- Secured **First Rank** in **Ph.D. National-wide Entrance exam** Conducted by **Department of Pharmaceutical Engineering & Technology, IIT (BHU),** Varanasi.
- Qualified in **NIPER- JEE 2009** with **615**th rank.
- Qualified in **GATE 2009** (**95.30** percentile).
- Qualified in **PGECET 2009** with **96**th rank.
- Obtain **88**th rank in **E-CET 2006**.

CONFERENCES and SEMINARS

- **First Prize** for **poster presentation** at international conference **NIPICON-2018,** conducted by **Institute of Pharmacy, Nirma University,** Ahmedabad, Gujarat.
- Presented **poster** at **international conference ETDDD-2018** at **IIT (BHU),** Varanasi.
- Participated in faculty development program on **EMERGING TRENDS IN PHARMACEUTICAL RESEARCH** organized by Annamacharya College of Pharmacy and Association of Pharmaceutical Teachers of India (APTI A.P. Branch) on 4th April 2010.

INSTRUMENTS HANDLED

- Particle size analyzer DLS (Malvern Nano S90)
- Freeze Dryer (Labocon)
- Cell Culture Facility (Biosafety cabinet, CO2 Incubator, Digital Inverted Microscope)
- High-speed Homogenizer (IKA)
- Spray Dryer (Jay Instruments)
- UV Visible Spectrophotometer (Elico 159).
- HPLC (Agilent, Auto sampler & Waters, manual sampler)
- 6 Jar Dissolution Apparatus (ELECTROLABS)
- Tablet Punching Machine (Single and Rotary, Karnavati)
- Colorimeter (SYSTRONICS),
- Fluidized bed drier
- Rapid mixer granulator
- Ultra-centrifuge 18k (REMI)
- Rotary evaporator (IKA)

PROJECT INFORMATION

Ph.D. work Development and evaluation of targeted nanomedicine for the treatment of non-small cell lung cancer.

Research Undertaken For M Pharm II Year "Formulation and Evaluation of Ranolazine Extended Release Tablets".

Mini projects in MPharm I year: "Organogels and their use in Drug Delivery-a Review", "Novel approaches in Transdermal drug delivery -an overview"

B. Pharm: "A Novel and Precise Method for Simultaneous Estimation of Paracetamol and Domperidone in its Combined Dosage Form"

INDUSTRIAL AND ACADEMIC EXPERIENCE

1 Assistant professor at **Sri Vasavi Institute Of Pharmaceutical Sciences**, Tadepalligudem, AP from **FEB 2012** to **JUNE 2016**.

2 R&D trainee (six months) in **MSN LABORATORIES, HYDERABAD** for the research work undertaken in M Pharm II year, in research and development of formulations.

3 One month in **SUMAGES PHARMACEUTICALS, BHEEMAVARAM**, for industrial training under BPharm III year.

PERSONAL INFORMATION

Name **: Matte Kasi Viswanadh**
Father **: Veera Raghavalu**
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Marital status :Married
Languages Known : English, Hindi, Telugu
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REFERENCES:

1) **Dr. M.S. Muthu**
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   Department of Pharmaceutical Engineering & Technology,
   Indian Institute of Technology (BHU), Varanasi, UP, India.
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   Assistant Professor,
   Department of Pharmaceutical Engineering & Technology,
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3) **Dr. Ashish Kumar Agrawal**
   Assistant Professor,
   Department of Pharmaceutical Engineering and Technology,
   Indian Institute of Technology (BHU), Varanasi, UP, India.
   Mail: ashish.phe@iitbhu.ac.in Phone: +91 6376983676

DECLARATION

I hereby declare that the above mentioned data are true, complete and correct to the best of my knowledge and belief.

Date:

Place: MATTE. KASI VISWANADH